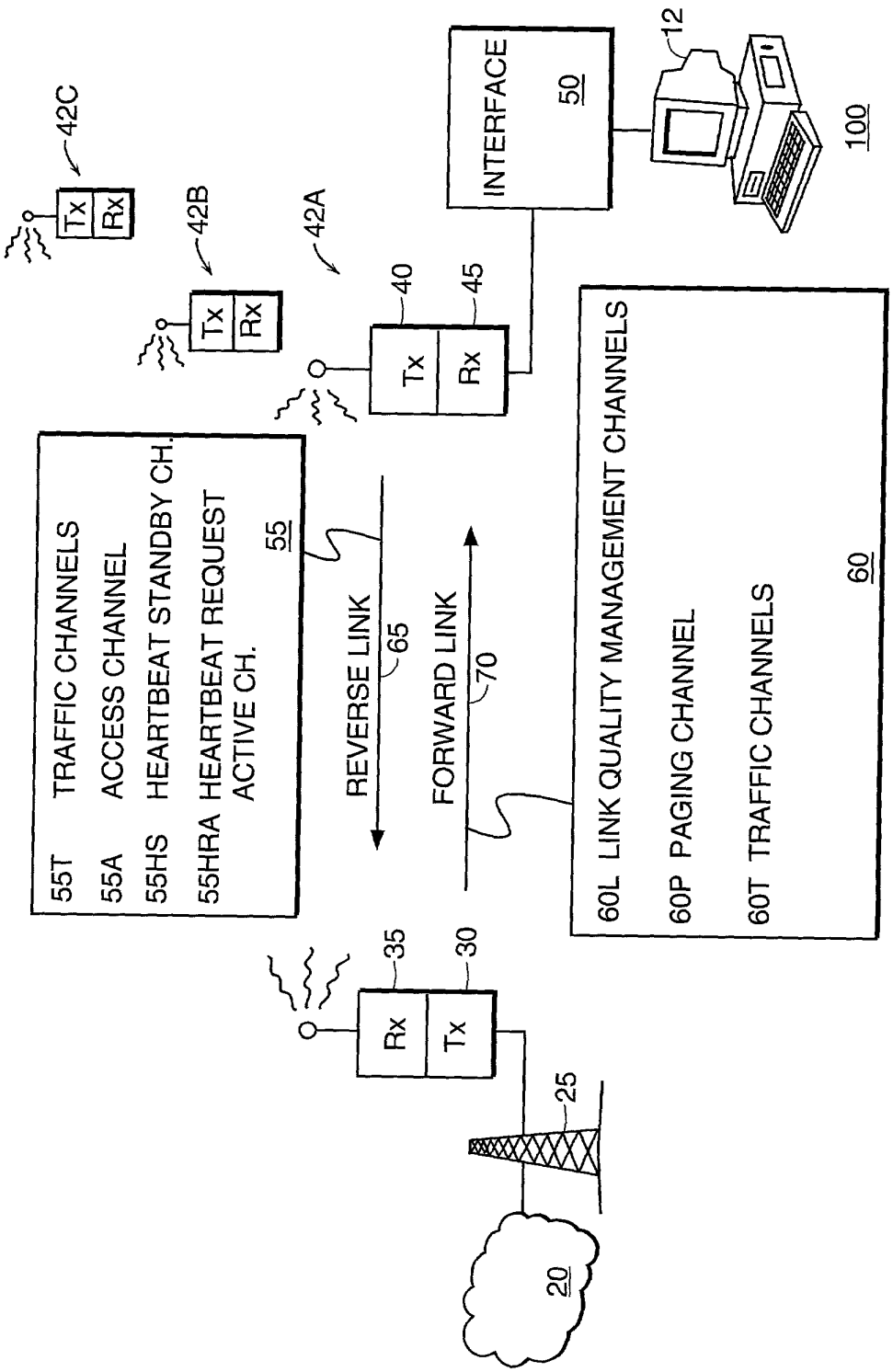
42C
Tx
Rx
42B
Tx
Rx
42A
40
Tx
45
Rx
INTERFACE
50
12
100
55T TRAFFIC CHANNELS
55A ACCESS CHANNEL
55HS HEARTBEAT STANDBY CH.
55HRA HEARTBEAT REQUEST ACTIVE CH.
55
REVERSE LINK
65
FORWARD LINK
70
60L LINK QUALITY MANAGEMENT CHANNELS
60P PAGING CHANNEL
60T TRAFFIC CHANNELS
60
35
Rx
30
Tx
25
20

FIG. 1

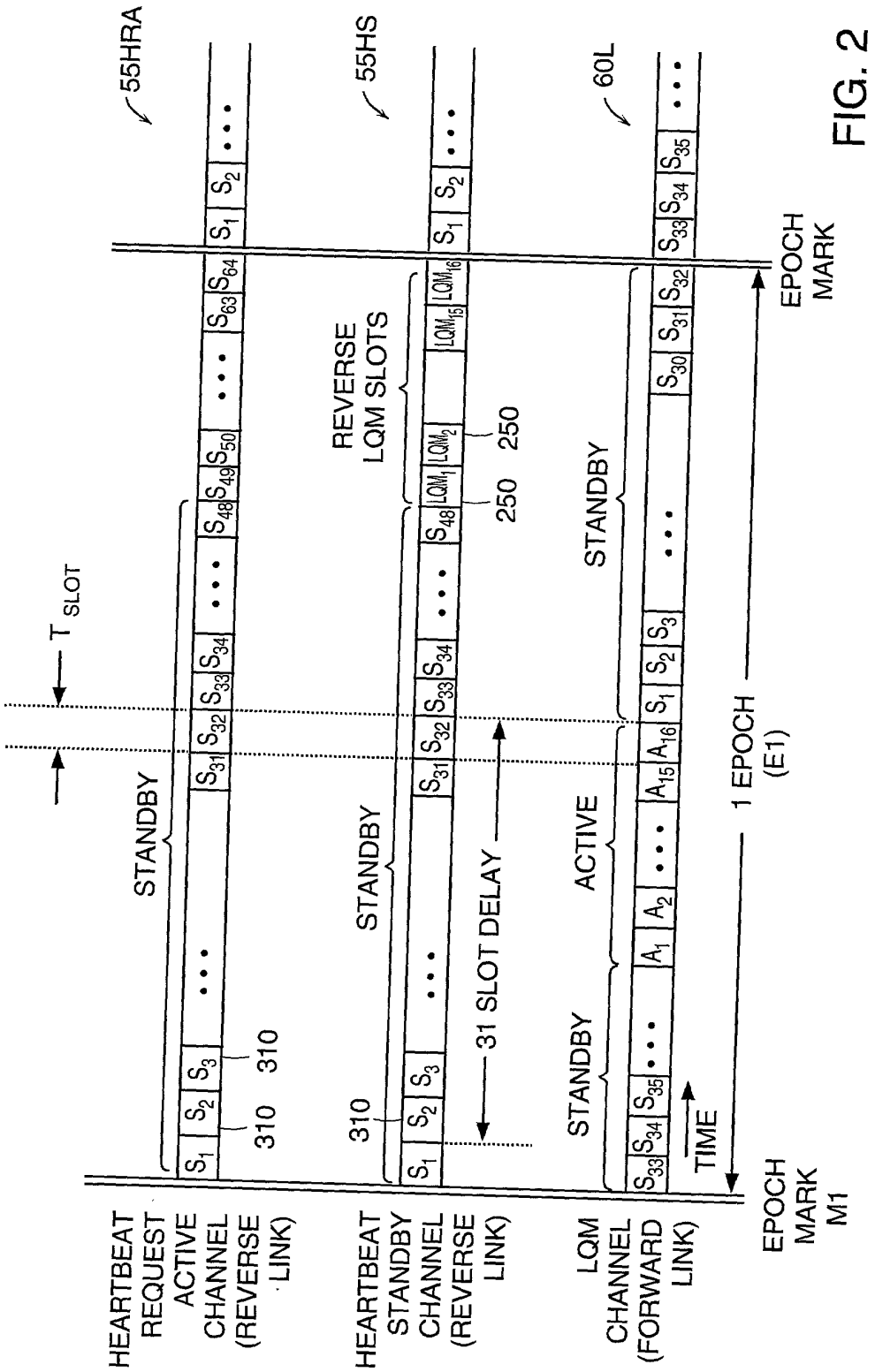
55HRA
55HS
60L
T_{SLOT}
STANDBY
STANDBY
STANDBY
ACTIVE
REVERSE LQM SLOTS
31 SLOT DELAY
250
250
310
310
310
1 EPOCH (E1)
TIME
EPOCH MARK
EPOCH MARK M1
HEARTBEAT REQUEST ACTIVE CHANNEL (REVERSE LINK)
HEARTBEAT STANDBY CHANNEL (REVERSE LINK)
LQM CHANNEL (FORWARD LINK)

FIG. 2

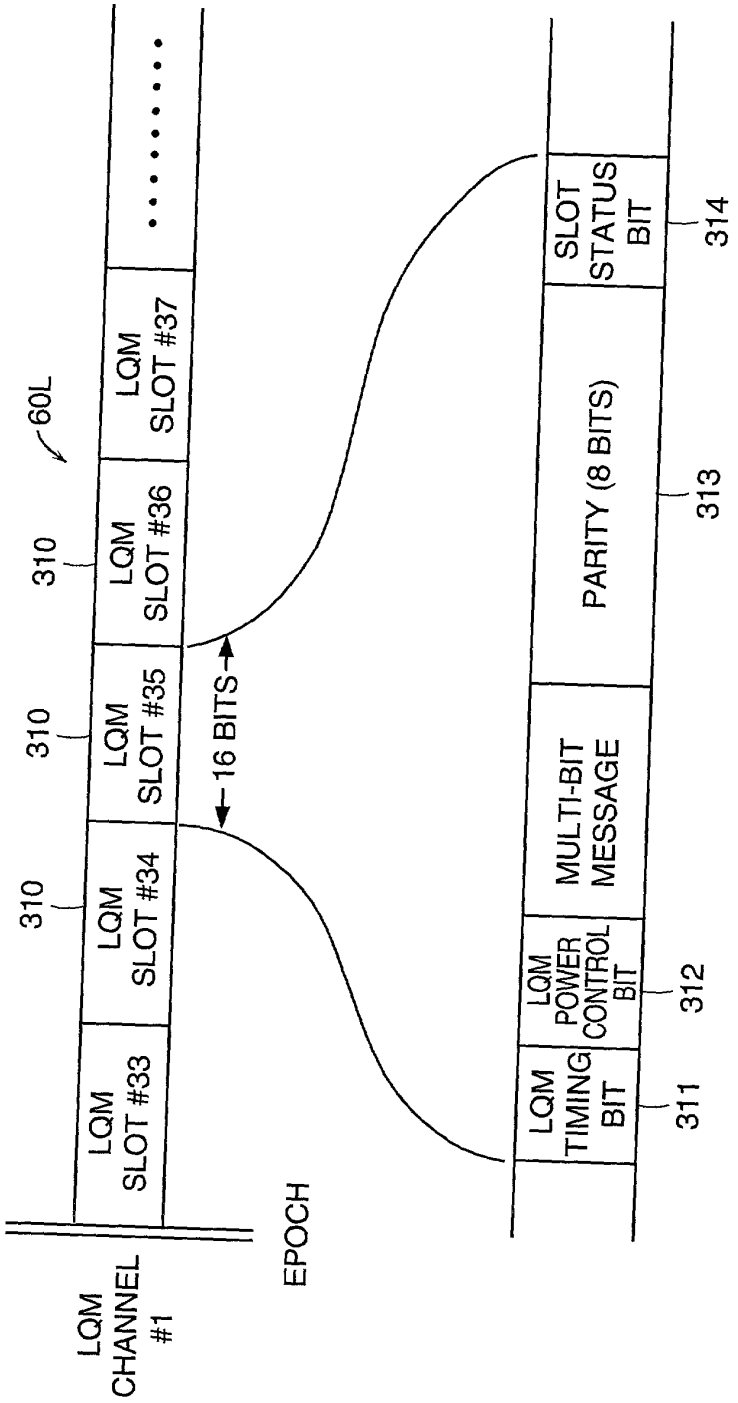
LQM CHANNEL #1
EPOCH
LQM SLOT #33
LQM SLOT #34
LQM SLOT #35
LQM SLOT #36
LQM SLOT #37
60L
310
16 BITS
LQM TIMING BIT
LQM POWER CONTROL BIT
MULTI-BIT MESSAGE
PARITY (8 BITS)
SLOT STATUS BIT
311
312
313
314

FIG. 3

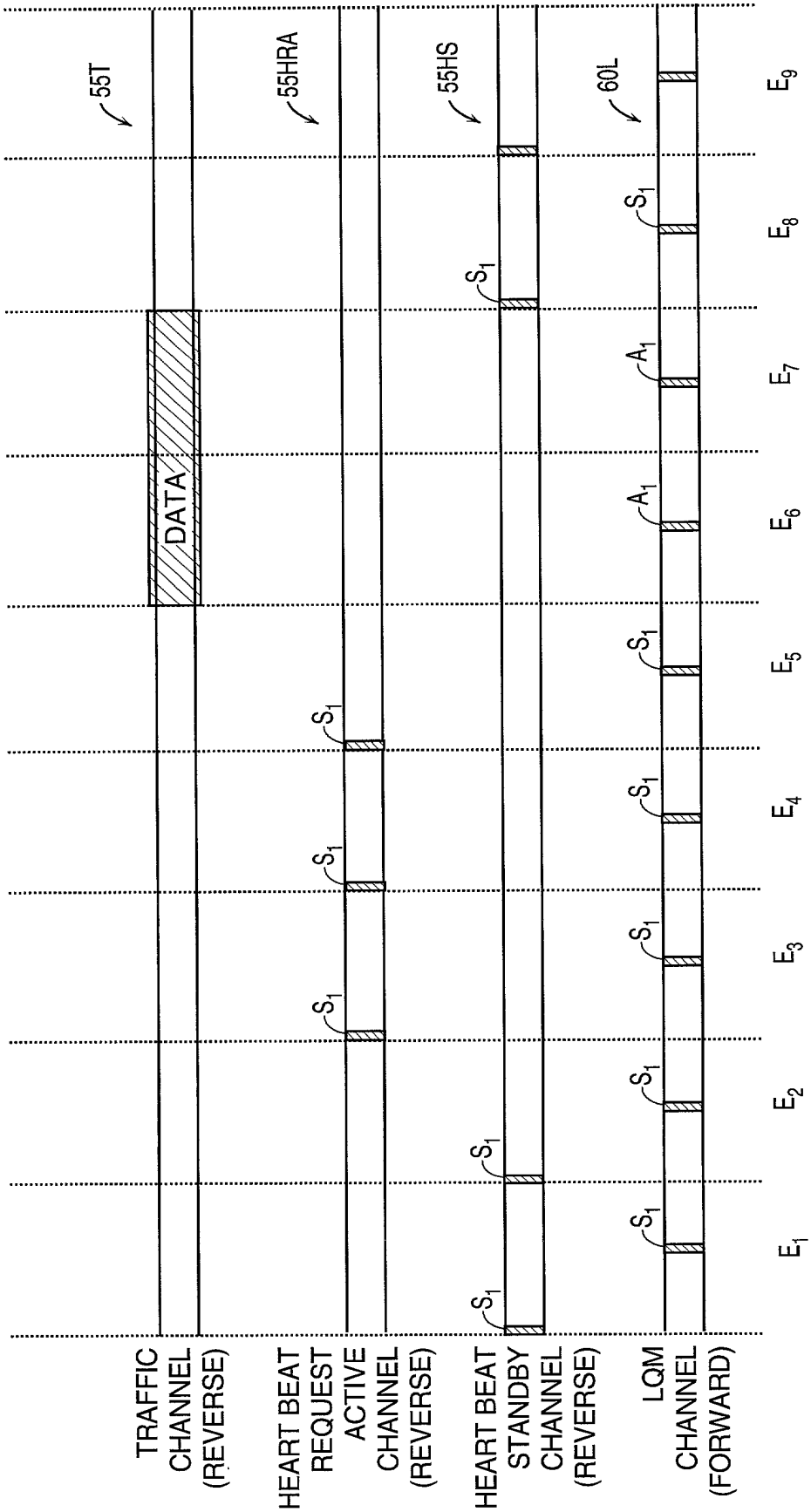
55T
55HRA
55HS
60L
DATA
S_1
A_1
E_1
E_2
E_3
E_4
E_5
E_6
E_7
E_8
E_9
TRAFFIC CHANNEL (REVERSE)
HEART BEAT REQUEST ACTIVE CHANNEL (REVERSE)
HEART BEAT STANDBY CHANNEL (REVERSE)
LQM CHANNEL (FORWARD)

FIG. 4

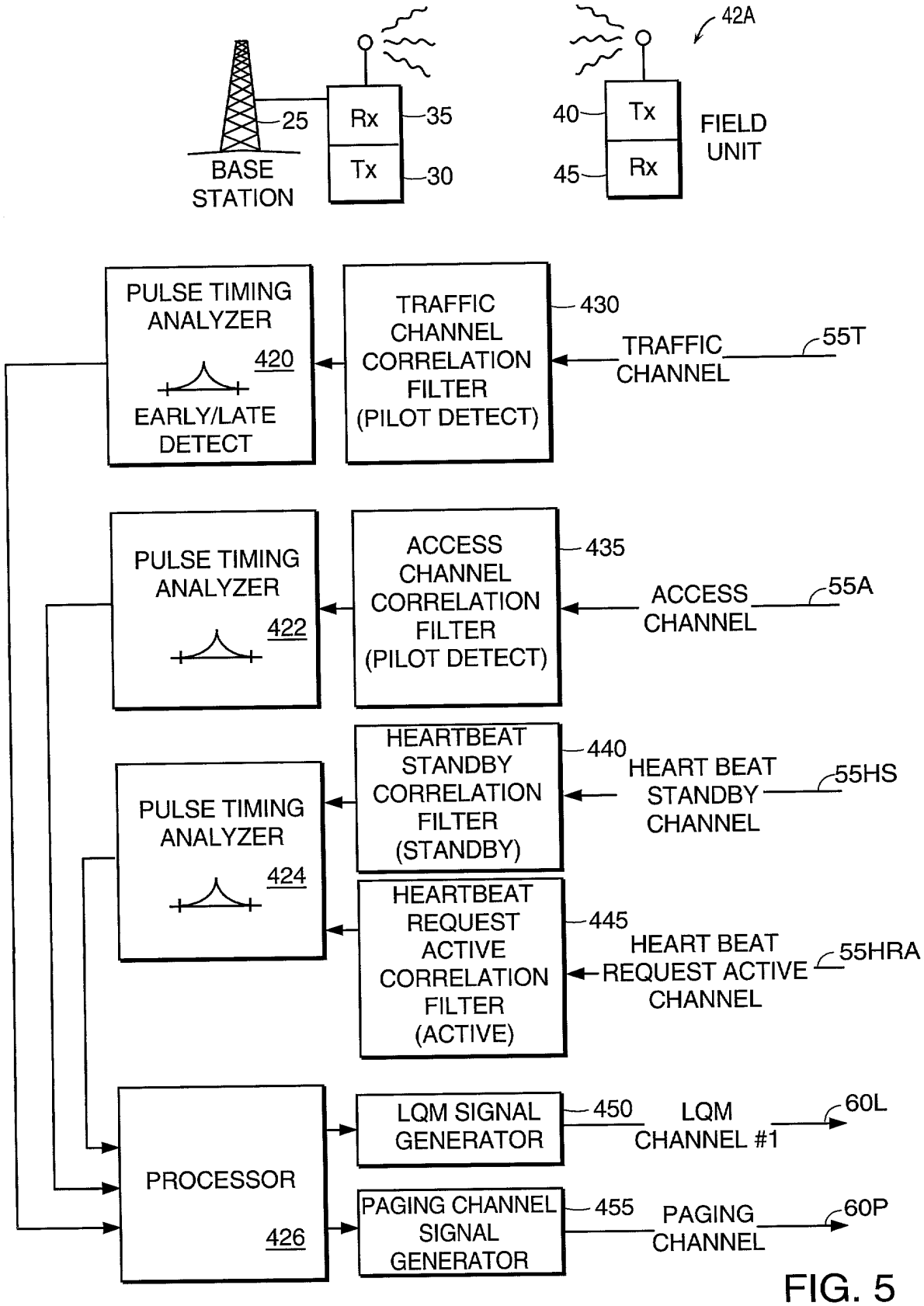
BASE STATION
25
Rx
35
Tx
30
42A
40
Tx
FIELD UNIT
45
Rx
PULSE TIMING ANALYZER
420
EARLY/LATE DETECT
TRAFFIC CHANNEL CORRELATION FILTER (PILOT DETECT)
430
TRAFFIC CHANNEL
55T
PULSE TIMING ANALYZER
422
ACCESS CHANNEL CORRELATION FILTER (PILOT DETECT)
435
ACCESS CHANNEL
55A
PULSE TIMING ANALYZER
424
HEARTBEAT STANDBY CORRELATION FILTER (STANDBY)
440
HEART BEAT STANDBY CHANNEL
55HS
HEARTBEAT REQUEST ACTIVE CORRELATION FILTER (ACTIVE)
445
HEART BEAT REQUEST ACTIVE CHANNEL
55HRA
PROCESSOR
426
LQM SIGNAL GENERATOR
450
LQM CHANNEL #1
60L
PAGING CHANNEL SIGNAL GENERATOR
455
PAGING CHANNEL
60P

FIG. 5

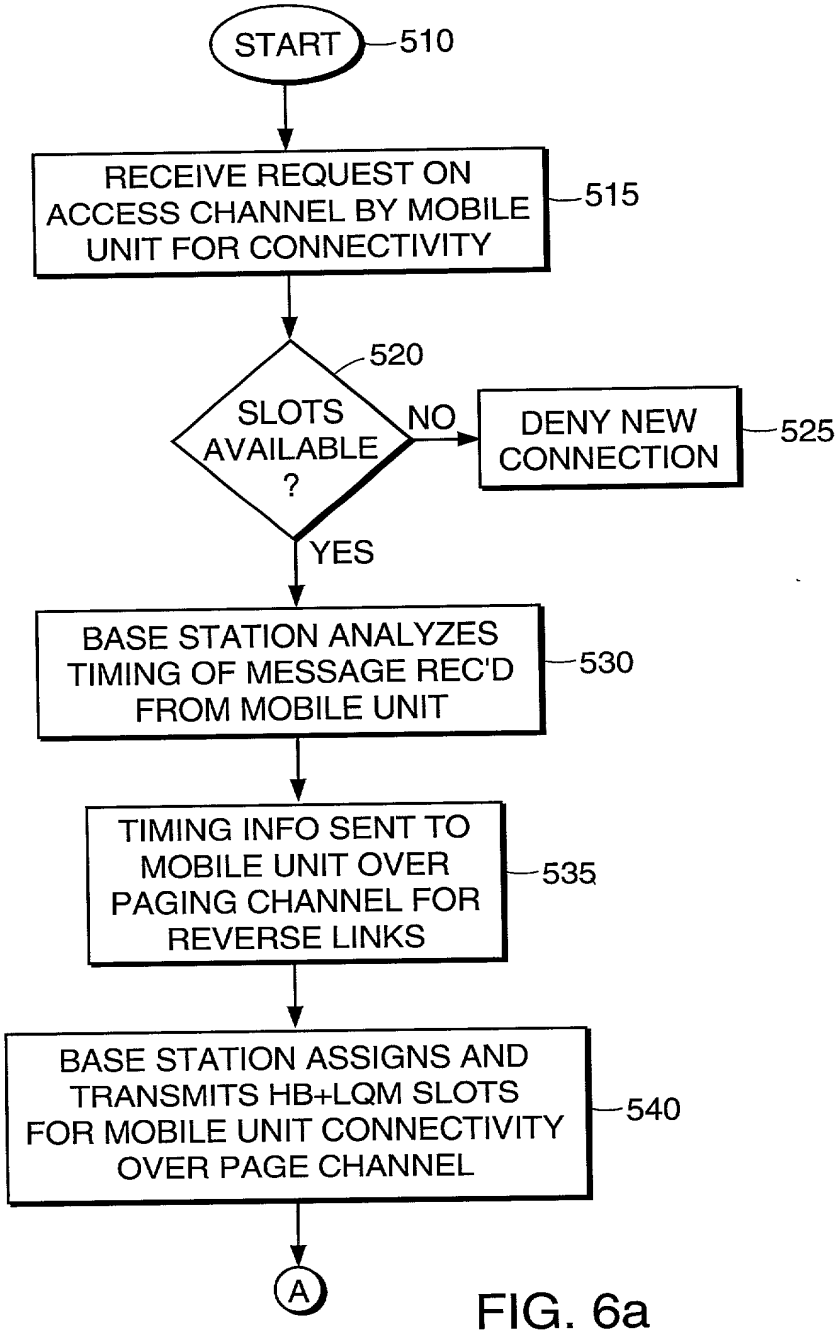
START
510
RECEIVE REQUEST ON ACCESS CHANNEL BY MOBILE UNIT FOR CONNECTIVITY
515
520
SLOTS AVAILABLE ?
NO
DENY NEW CONNECTION
525
YES
BASE STATION ANALYZES TIMING OF MESSAGE REC'D FROM MOBILE UNIT
530
TIMING INFO SENT TO MOBILE UNIT OVER PAGING CHANNEL FOR REVERSE LINKS
535
BASE STATION ASSIGNS AND TRANSMITS HB+LQM SLOTS FOR MOBILE UNIT CONNECTIVITY OVER PAGE CHANNEL
540
A

FIG. 6a

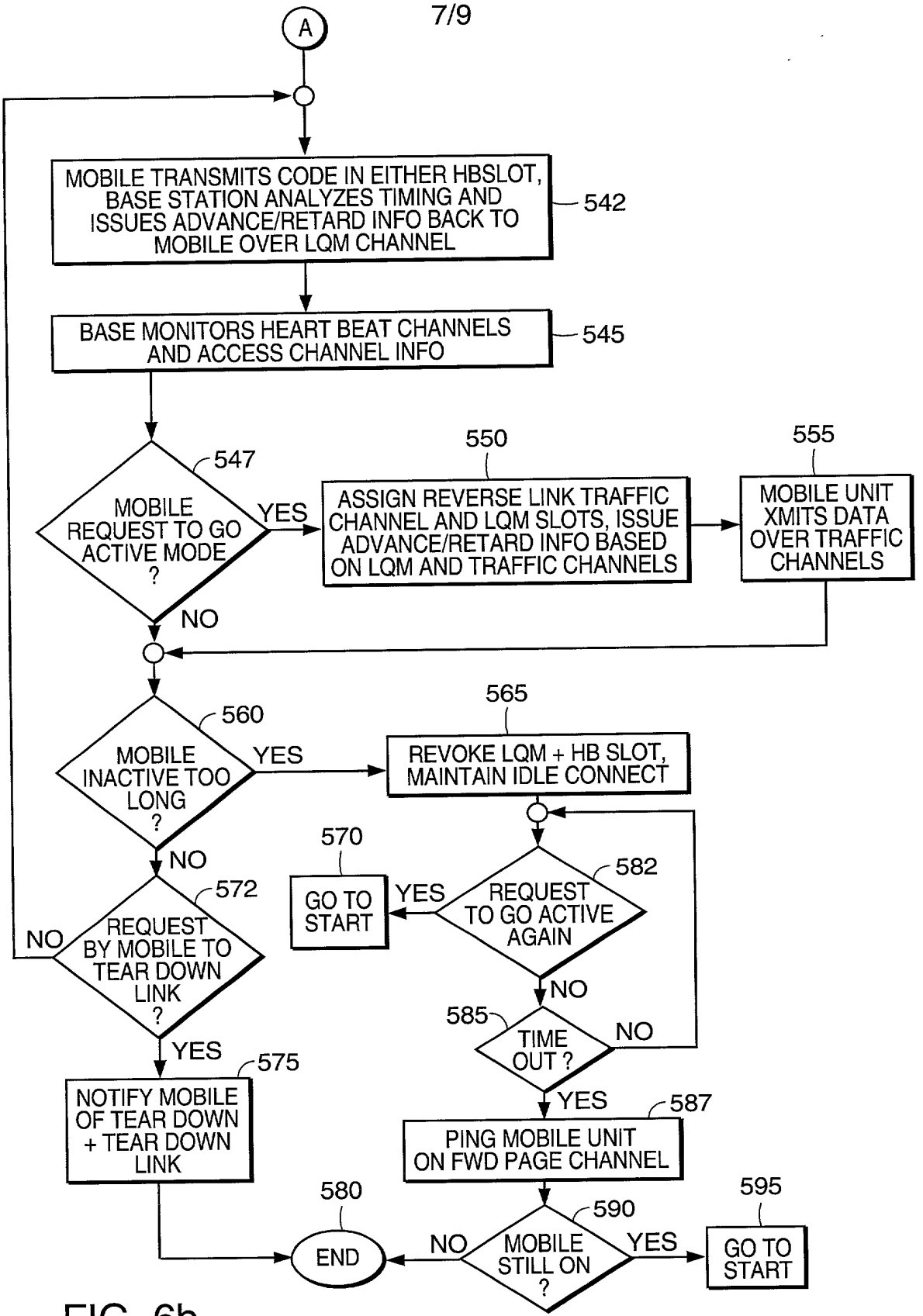
A
MOBILE TRANSMITS CODE IN EITHER HBSLOT, BASE STATION ANALYZES TIMING AND ISSUES ADVANCE/RETARD INFO BACK TO MOBILE OVER LQM CHANNEL
542
BASE MONITORS HEART BEAT CHANNELS AND ACCESS CHANNEL INFO
545
547
MOBILE REQUEST TO GO ACTIVE MODE ?
YES
NO
550
ASSIGN REVERSE LINK TRAFFIC CHANNEL AND LQM SLOTS, ISSUE ADVANCE/RETARD INFO BASED ON LQM AND TRAFFIC CHANNELS
555
MOBILE UNIT XMITS DATA OVER TRAFFIC CHANNELS
560
MOBILE INACTIVE TOO LONG ?
YES
NO
565
REVOKE LQM + HB SLOT, MAINTAIN IDLE CONNECT
570
GO TO START
582
REQUEST TO GO ACTIVE AGAIN
YES
NO
572
REQUEST BY MOBILE TO TEAR DOWN LINK ?
NO
YES
585
TIME OUT ?
NO
YES
575
NOTIFY MOBILE OF TEAR DOWN + TEAR DOWN LINK
587
PING MOBILE UNIT ON FWD PAGE CHANNEL
580
END
590
MOBILE STILL ON ?
NO
YES
595
GO TO START

FIG. 6b

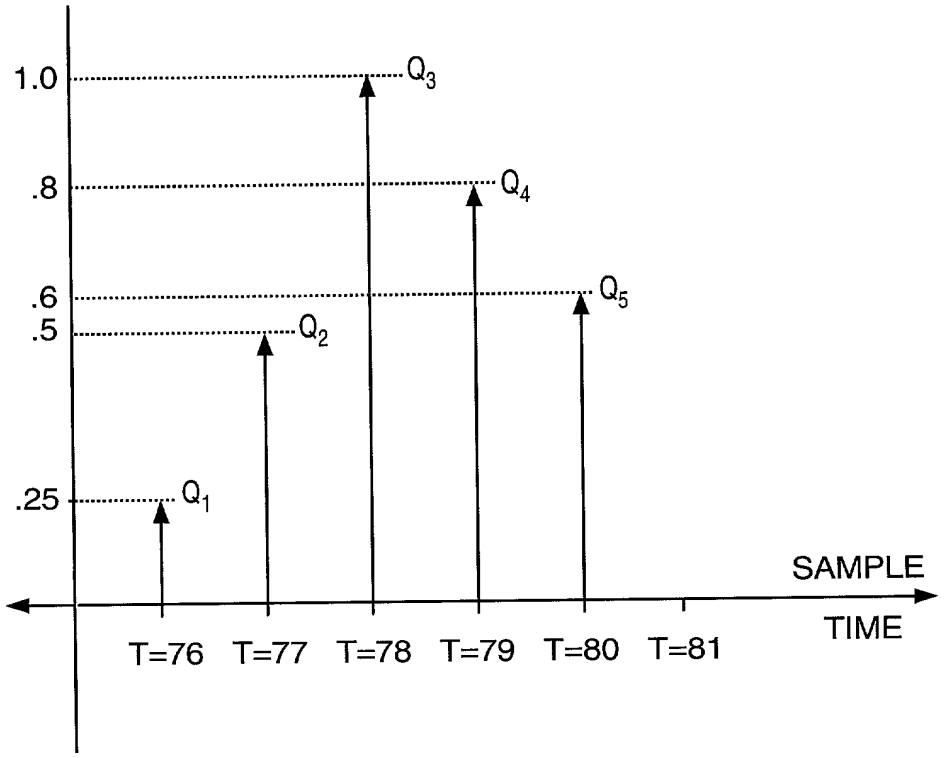

FIG. 7

Page 30 of 260

SUBSCRIBER MODE	SYCHRONIZATION CHANNELS	TIMING REFERENCE IN REVERSE LINK	ASSIGNMNET OF TRAFFIC CHANNELS FOR DATA TRANSMISSIONS
ACTIVE	LQM + TRAFFIC	PILOT SYMBOL SEQUENCE IN TRAFFIC CHANNEL	YES
STANDBY	LQM + HEARTBEAT OR LQM + HEARTBEAT - REQUEST	UNIQUE CODE OF HEARTBEAT STANDBY CHANNEL OR UNIQUE CODE OF HEARTBEAT REQUEST ACTIVE CH.	NO
IDLE	NONE	NONE	NO

FIG. 8

App No.: 09/775,305
Title: Maintenance Link Using Active/...
Inventors: G. Rodney Nelson, Jr., *et al.*